U.S. Department of the Interior • U.S. Geological Survey

MINERAL INDUSTRY SURVEYS

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SULFUR IN NOVEMBER 1996

During the month, production of combined Frasch and recovered elemental sulfur was 835,000 metric tons, according to the U.S. Geological Survey. November production was nearly 5% lower than that of October 1996, and 22% lower than that of November 1995. Shipments of these combined products were 3% lower than those of October 1996.

Import and export data for November 1996 were not available at the time of publication. Import/export data and apparent consumption for November 1996 will be published in the December 1996 Sulfur Mineral Industry Surveys. Imports of recovered sulfur for October 1996 were 93,000 tons.

Exports of sulfur, for the same period, were 92,000 tons. Imports of sulfuric acid for October 1996 were 161,000 tons; exports were 12,000 tons.

Official trade data issued by U.S. Bureau of the Census indicated imports of elemental sulfur for the last few months are significantly higher than any time in the past. The listed sources for the material are not normally countries that export sulfur to the United States; the data are being verified. Until the inquiry is complete, U.S. import data for elemental sulfur will be adjusted by USGS to correspond to historic trends.

TABLE 1 SALIENT SULFUR STATISTICS 1/

(Thousand metric tons)

| | | | Shipments, | | |
|--------------|-----------|--------------|-------------|----------|-------------|
| Period | Frasch 2/ | Petroleum 3/ | Natural gas | Total | all sources |
| 1995 | 759 | 5,020 | 4,580 | 10,400 | 10,700 |
| JanNov. 1995 | 759 | 4,600 | 4,110 | 9,470 | 9,880 |
| 1995: | - | | | | |
| November | W | 434 | 459 4/ | 893 | 905 |
| December | W | 443 | 460 4/ | 903 | 917 |
| 1996: | | | | | |
| January | W | 433 | 449 4/ | 882 | 884 |
| February | W | 406 | 419 4/ | 825 | 815 |
| March | W | 430 | 424 4/ | 854 | 835 |
| April | W | 449 | 423 4/ | 872 | 898 |
| May | W | 467 | 422 4/ | 889 | 863 |
| June | W | 416 | 397 4/ | 813 | 763 |
| July | W | 433 | 427 4/ | 860 | 832 |
| August | W | 468 | 432 4/ | 900 | 917 |
| September | W | 440 | 401 4/ | 841 | 872 |
| October | W | 466 | 412 r/4/ | 878 r/ | 885 1 |
| November | W | 481 p/ | 354 p/4/ | 835 p/ | 858 [|
| Year to date | W | 4,890 p/ | 4,560 p/ | 9,450 p/ | 9,420 r |

p/ Preliminary. r/ Revised. W Withheld to avoid disclosing company proprietary data; included with "Natural gas."

TABLE 2 U.S. IMPORTS OF SULFUR 1/

(Thousand metric tons and thousand dollars)

| | Cana | nda | Mex | ico | Total, all cou | intries 2/ |
|--------------|----------|----------|----------|----------|----------------|------------|
| Period | Quantity | Value 3/ | Quantity | Value 3/ | Quantity | Value 3/ |
| 1995 | 1,670 | 65,000 | 502 | 28,900 | 2,200 | 99,700 |
| JanOct. 1995 | 1,410 | 55,100 | 424 | 24,500 | 1,830 | 84,800 |
| 1995: | | | | | | |
| October | 158 | 5,910 | 41 | 2,120 | 199 | 9,020 |
| November | 151 | 5,250 | 38 | 1,970 | 189 | 7,510 |
| December | 116 | 4,020 | 40 | 1,800 | 174 | 6,870 |
| 1996: | | | | | | |
| January | 96 | 4,780 | 18 | 781 | 135 | 7,070 |
| February | 96 | 4,140 | 37 | 1,910 | 150 | 7,080 |
| March | 93 | 2,480 | 37 | 1,720 | 130 | 4,680 |
| April | 82 | 2,220 | 37 | 1,990 | 119 | 4,660 |
| May | 119 | 2,400 | 37 | 1,280 | 171 | 5,520 |
| June | 85 | 1,500 | 36 | 1,760 | 122 | 3,780 |
| July | 111 | 4,610 | 36 | 1,680 | 148 | 6,700 |
| August | 80 | 1,590 | 57 | 2,510 | 157 | 4,910 |
| September | 59 | 1,390 | 58 | 2,470 | 135 | 4,410 |
| October | 92 | 2,170 | NA | NA | 93 | 3,110 |
| Year to date | 914 | 27,300 | 353 | 16,100 | 1,360 | 51,900 |

NA Not available.

Source: Bureau of the Census.

 $^{1/\,\}mbox{Data}$ are rounded to three significant digits; may not add to totals shown.

²/ Estimates based on information available from the Texas Comptroller of Public Account and company quarterly reports.

^{3/} Includes a small quantity from coking operations.

^{4/} Includes data from Frasch producers.

^{1/} Data are rounded to three significant digits; may not add to totals shown.

^{2/} May include other countries not listed.

^{3/} Declared customs valuation.

TABLE 3 U.S. IMPORTS OF SULFURIC ACID 1/

(Thousand metric tons and thousand dollars)

| | | Canada | | | Europe | | | Total 2/ | |
|-----------------|----------|---------|----------|----------|---------|----------|----------|----------|---------|
| | | Sulfur | | | Sulfur | | | Sulfur | |
| Period | Quantity | content | Value 3/ | Quantity | content | Value 3/ | Quantity | content | Value 3 |
| 1995 | 1,660 | 544 | 61,500 | 95 | 30 | 710 | 1,900 | 619 | 66,500 |
| JanOct. 1995 4/ | 1,420 | 464 | 52,700 | 85 | 27 | 594 | 1,640 | 534 | 56,600 |
| 1995: | | | | | | | | | |
| October | 147 | 48 | 5,290 | (5/) | (5/) | 2 | 185 | 60 | 5,790 |
| November | 136 | 45 | 4,900 | 10 | 3 | 116 | 147 | 48 | 5,060 |
| December | 133 | 44 | 4,260 | | | | 139 | 45 | 5,280 |
| 1996: | | | | | | | | | |
| January | 112 | 37 | 3,420 | 9 | 3 | 113 | 144 | 47 | 4,120 |
| February | 110 | 36 | 2,700 | 11 | 4 | 232 | 188 | 62 | 3,550 |
| March | | 47 | 3,900 | 35 | 12 | 466 | 199 | 65 | 4,510 |
| April | 126 | 41 | 3,620 | 40 | 13 | 421 | 202 | 66 | 4,350 |
| May | 147 | 48 | 3,990 | 20 | 7 | 223 | 192 | 63 | 4,510 |
| June | 113 | 37 | 2,670 | 21 | 7 | 160 | 140 | 46 | 3,460 |
| July | 106 | 35 | 2,770 | 21 | 7 | 86 | 132 | 43 | 3,210 |
| August | 127 | 41 | 3,260 | 11 | 3 | 176 | 138 | 45 | 3,620 |
| September | 156 | 51 | 3,760 | 19 | 6 | 70 | 195 | 64 | 4,160 |
| October | 144 | 47 | 3,690 | | | | 161 | 53 | 3,890 |
| Year to date | 1,290 | 420 | 33,800 | 187 | 62 | 1,950 | 1,690 | 553 | 39,400 |

^{1/} Data are rounded to three significant digits; may not add to totals shown.

Source: Bureau of the Census.

 ${\bf TABLE~4}$ U.S. EXPORTS OF SULFUR AND SULFURIC ACID 1/

(Thousand metric tons and thousand dollars)

| | Sulf | ur | Sı | ılfuric Acid | |
|--------------|----------|----------|----------|--------------|--------|
| | | | | Sulfur | |
| Period | Quantity | Value 2/ | Quantity | content | Value |
| 1995 | 905 | 66,200 | 171 | 56 | 12,800 |
| JanOct. 1995 | 795 | 61,400 | 145 | 47 | 11,000 |
| 1995: | | | | | |
| October | 104 | 7,060 | 17 | 6 | 1,530 |
| November | 51 | 3,690 | 11 | 4 | 1,050 |
| December | 99 | 5,340 | 6 | 2 | 774 |
| 1996: | | | | | |
| January | 102 | 7,600 | 13 | 4 | 1,370 |
| February | 82 | 7,080 | 6 | 2 | 805 |
| March | 66 | 1,590 | 10 | 3 | 900 |
| April | 120 | 6,720 | 7 | 2 | 938 |
| May | 15 | 2,330 | 9 | 3 | 1,080 |
| June | 124 | 4,990 | 8 | 3 | 785 |
| July | 62 | 3,160 | 9 | 3 | 978 |
| August | 139 | 7,280 | 12 | 4 | 1,090 |
| September | 36 | 1,910 | 12 | 4 | 1,080 |
| October | 92 | 3,760 | 12 | 4 | 1,440 |
| Year to date | 838 | 46,400 | 98 | 32 | 10,500 |

^{1/} Data are rounded to three significant digits; may not add to totals shown.

Source: Bureau of the Census.

^{2/} May include other countries not listed.

^{3/} Declared customs valuation.

^{4/} May include revisions to prior months.

^{5/} Less than 1/2 unit.

^{2/} Declared f.a.s. (free alongside ship) valuation.

TABLE 5 U.S. CONSUMPTION OF SULFUR 1/

(Thousand metric tons)

| Period | Domestic sources 2/ | Imports | Consumption |
|--------------|---------------------|---------|-------------|
| 1995 | 9,830 | 2,200 | 12,000 |
| JanOct. 1995 | 8,140 | 1,830 | 10,000 |
| 1995: | | | |
| October | 738 | 199 | 937 |
| November | 854 | 189 | 1,040 |
| December | 818 | 174 | 992 |
| 1996: | | | |
| January | 780 | 135 | 915 |
| February | 733 | 150 | 883 |
| March | | 130 | 899 |
| April | 778 | 119 | 897 |
| May | 848 | 171 | 1,020 |
| June | 639 | 122 | 761 |
| July | 770 | 148 | 918 |
| August | 778 | 157 | 935 |
| September | 836 | 135 | 971 |
| October | 793 | 93 | 886 p/ |
| Year to date | 7,720 | 1,360 | 9,080 p/ |

p/ Preliminary.

 ${\it TABLE~6}$ RECOVERED SULFUR PRODUCED AND SHIPPED IN THE UNITED STATES, BY PAD (PETROLEUM ADMINISTRATION FOR DEFENSE) DISTRICT 1/

(Thousand metric tons)

| | November | · 1996 p/ | October 1 | 996 p/ | Year to dat | te 1996 p/ | Year to da | te 1995 2/ |
|---------------------|------------|-----------|------------|-----------|-------------|------------|------------|------------|
| District and source | Production | Shipments | Production | Shipments | Production | Shipments | Production | Shipments |
| PAD 1: | | - | | | | - | | |
| Petroleum and coke | 14 | 14 | 21 | 20 | 196 | 204 | 222 | 217 |
| Natural gas | 4 | 4 | 4 | 5 | 47 | 47 | 46 | 46 |
| Total | 18 | 18 | 25 | 25 | 242 | 251 | 268 | 263 |
| PAD 2: | | | | | | | | |
| Petroleum and coke | 80 | 79 | 77 | 78 | 838 | 836 | 823 | 820 |
| Natural gas | 4 | 4 | 4 | 4 | 46 | 46 | 54 | 54 |
| Total | 84 | 83 | 82 | 82 | 884 | 882 | 878 | 875 |
| PAD 3: 3/ | | | | | | | | |
| Petroleum and coke | 264 | 254 | 273 | 257 | 2,850 | 2,820 | 2,600 | W |
| Natural gas 4/ | 290 | 324 | 311 r/ | 325 r/ | 3,550 | 3,560 | 3,870 | W |
| Total | 554 | 578 5/ | 584 r/ | 582 r/ 5/ | 6,400 | 6,380 5/ | 6,470 | 6,140 5 |
| PAD 4 and 5: 6/ | | | | | | | | |
| Petroleum and coke | 124 | 126 | 96 | 101 | 1,010 | 1,010 | 941 | 948 |
| Natural gas | 56 | 55 | 93 | 94 | 917 | 902 | 912 | 912 |
| California | 71 | 72 | 74 | 79 | 762 | 765 | 734 | 742 |
| Total | 180 | 180 | 189 | 195 | 1,930 | 1,910 | 1,850 | 2,600 |
| Grand total | 835 | 858 | 878 r/ | 885 r/ | 9,450 | 9,420 | 9,470 | 9,880 |

p/ Preliminary. r/ Revised. W Withheld to avoid disclosing company proprietary data.

^{1/} Data are rounded to three significant digits; may not add to totals shown.

^{2/} Calculated as shipments minus exports.

^{1/} Data are rounded to three significant digits; may not add to totals shown.

^{2/} May include revisions to prior months.

 $^{3/\,\}text{Includes}$ Puerto Rico and the U.S. Virgin Islands.

^{4/} Frasch production is included in the natural gas production to avoid disclosing company proprietary data.

^{5/} Includes data from Frasch producers.

⁶/ Quantities produced and shipped in California included in petroleum and natural gas. California total shown for information purposes only.

${\bf TABLE~7} \\ {\bf COMPARATIVE~SULFUR~AND~SULFURIC~ACID~STATISTICS~1/} \\$

(Million metric tons per year [annualized basis] and dollars per metric ton for period shown)

| | | 1995 | | |
|--------------------------|----------|----------|--------------|-------|
| | November | October | Year to date | Total |
| Production | 10.20 p/ | 10.40 r/ | 10.30 p/ | 10.30 |
| Shipments | 10.50 p/ | 10.40 r/ | 10.30 p/ | 10.40 |
| Exports of sulfur | NA | 1.09 | 1.01 | 0.87 |
| Imports of sulfur: | | | | |
| Canada | NA | 1.09 | 1.10 | 1.65 |
| Mexico | NA | NA | 0.42 | 0.51 |
| Total | NA | 1.10 | 1.63 | 2.16 |
| Exports of H2SO4 | NA | 0.14 | 0.12 | 0.18 |
| Imports of H2SO4: | | | | |
| Canada | NA | 1.70 | 1.54 | 1.66 |
| Europe | NA | | 0.22 | 0.11 |
| Total 2/ | NA | 1.90 | 2.03 | 1.91 |
| Consumption: 3/ | - | | | |
| Domestic sources | NA | 9.36 | 9.27 | 9.56 |
| Imports | NA | 1.10 | 1.63 | 2.16 |
| Total | NA | 10.50 | 10.90 | 11.70 |
| Sulfur export values 4/ | NA | \$41 | \$55 | \$77 |
| Sulfur import values: 4/ | | | | |
| Canada | NA | \$24 | \$30 | \$40 |
| Mexico | NA | NA | \$46 | \$60 |
| Average | NA | \$33 | \$38 | \$45 |
| H2SO4 export values 4/ | NA | \$120 | \$107 | \$69 |
| H2SO4 import values: 4/ | - | | | |
| Canada | NA | \$26 | \$26 | \$38 |
| Europe | NA | | \$10 | \$7 |
| Average | NA | \$24 | \$23 | \$37 |

p/ Preliminary. r/ Revised. NA Not available.

^{1/} Data are rounded to three significant digits; may not add to totals shown.

^{2/} Includes other countries not listed.

^{3/} Because trade data were not available, November consumption was not determined.

^{4/} Average value per ton for most recent data available.